

REMARKS/ARGUMENTS

Claims 23, 25-33, 35-39, and 44-46 are pending in this application. In this Amendment, Applicant AMENDS claims 23, 27, and 28 and CANCELS claim 34.

Applicant's counsel greatly appreciates the courtesies extended by the Examiner in the personal interview of July 14, 2011. Applicant's counsel and the Examiner discussed the Amendment filed June 29, 2011, including the definition of the term "opening." The Examiner suggested considering amending claim 23 to recite the features recited in Applicant's claims 27-30. In this Amendment, Applicant has amended claims 27 and 28 to be in independent form in accordance with the Examiner's suggestion. Accordingly, Applicant respectfully submits that claims 27 and 28 are allowable.

On page 2 of the outstanding Office Action, the Examiner rejected claim 45 under 35 U.S.C. § 112, first paragraph for allegedly failing to comply with the written description requirement, and on page 2 of the outstanding Office Action, the Examiner rejected claim 45 under 35 U.S.C. § 112, second paragraph, for allegedly being indefinite. The Examiner alleged that, because "a flat signal layer" is allegedly not described in the specification, the feature of "a flat signal layer" is unclear. In the Amendment filed June 29, 2011, Applicant amended claim 45 to recite "single" instead of "signal." Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejections of claim 45 under 35 U.S.C. § 112, first and second paragraphs.

On page 3 of the outstanding Office Action, the Examiner rejected claims 23, 32-39, and 44-46 under 35 U.S.C. § 103(a) as being unpatentable over Sato et al. (U. S. 5,894,388) in view of Applicant's Admitted Prior Art (AAPA). On page 7 of the outstanding Office Action, the Examiner rejected claims 23, 25, 26, 36-39, 44, and 45 under 35 U.S.C. § 103(a) as being unpatentable over Edelman et al. (U.S. 2005/0174687) in view of AAPA. On page 11 of the outstanding Office Action, the Examiner rejected claims 27-29 under 35 U.S.C. § 103(a) as being unpatentable over Sato et al. in view of AAPA further in view of Hirooka (U.S. 2003/0036025) (Hirooka '025). On page 12 of the outstanding Office Action, the Examiner rejected claims 30

and 31 under 35 U.S.C. § 103(a) as being unpatentable over Sato et al. in view of AAPA and Hirooka '025 in view of Hirooka (JP 2004-127442) (Hirooka '442).

As noted above, Applicant has canceled claim 34. Accordingly, Applicant respectfully traverses the rejections of claims 23, 25-33, 35-39, and 44-46.

Applicant's claim 23 recites:

A thin-film magnetic head substrate comprising:
a ceramic base with a principal surface; and
an undercoat film, which is made of an aluminum oxide and which covers the principal surface of the ceramic base, an electrical/magnetic transducer being provided on the undercoat film; wherein
the substrate further includes an intermediate layer between the principal surface of the ceramic base and the undercoat film;
the intermediate layer is made of a material other than the aluminum oxide, has been patterned so as to make a portion of the principal surface of the ceramic base contact with the undercoat film, and has an opening where the electrical/magnetic transducer is not located;
the ceramic base is a single monolithic layer arranged to be the bottom-most layer of the thin-film magnetic head substrate;
in a region other than the opening of the intermediate layer, as viewed in a direction perpendicular to the principal surface of the ceramic base:
the intermediate layer is present between the undercoat film and the ceramic base; and
the undercoat film is not in contact with the ceramic base; and
the intermediate layer is made of a material selected from the group consisting of Cu, alloys including Cu and Cr, and alloys including Cr and Si.
(emphasis added)

Applicant has amended claim 23 to recite the features that were cited in now canceled claim 34.

In the first full paragraph on page 6 of the outstanding Office Action, the Examiner alleged that the sendust of col. 6, ll. 15-19 of Sato et al. teaches the features recited in Applicant's claims 34.

Applicant respectfully disagrees.

Sato et al. teaches providing a lower shield layer **2** composed of sendust (Fe-Al-Si alloy) or a permalloy (Fe-Ni alloy) on the slider **12**. Claim 1 of Sato et al., for example, requires that the lower shield layer should be made of magnetic material.

As shown in Applicant's **Fig. 6**, the lower shield layer **85**, which corresponds to the lower shield layer **2** of Sato et al., is deposited on the undercoat film **3**. The intermediate layer of the present invention is not a magnetic shield layer, unlike the magnetic lower shield layer **2** of Sato et al.

The materials of the intermediate layer recited in Applicant's amended claim 23 are quite different from the materials of the magnetic lower shield layer **2** of Sato et al. The materials of the lower shield layer **2** of Sato et al. are required to be magnetic, while the materials of the intermediate layer recited in Applicant's amended claim 23 are required to be made of a material selected from the group consisting of Cu, alloys including Cu and Cr, and alloys including Cr and Si, which are non-magnetic materials. Neither Sato et al. nor any of the other prior art references of record provide a reasonable motivation to replace the shield layer **2** of Sato et al. with an intermediate layer made of non-magnetic materials as recited in Applicant's amended claim 23.

As explained above, the intermediate layer of the present invention is not a magnetic shield layer. The present invention includes a separate and distinct layer to provide a magnetic shield layer. See, for example, Applicant's claim 25 that recites a lower magnetic shield film which is included in the electrical/magnet transducer. The electrical/magnet transducer is provided on the undercoat film. In other words, in Applicant's claimed invention, the lower magnetic shield film is located over the undercoat film, while the intermediate layer is located under the undercoat film. Sato et al. fails to teach or suggest providing such an intermediate layer under the lower shield film **2**.

Thus, Sato et al. fails to teach or suggest the feature of "the intermediate layer is made of a material selected from the group consisting of Cu, alloys including Cu and Cr, and alloys including Cr and Si" as was recited in Applicant's now canceled claim 34 and as now recited in Applicant's amended claim 23.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 23 under 35 U.S.C. § 103(a) as being unpatentable over Sato et al. in view of AAPA.

The Examiner has relied upon Edelman et al., Hirooka '025, and Hirooka '442 to reject Applicant's claims. However, Edelman et al., Hirooka '025, and Hirooka '442, applied alone or in combination with, fail to teach or suggest the feature of "the intermediate layer is made of a material selected from the group consisting of Cu, alloys including Cu and Cr, and alloys including Cr and Si" as recited in Applicant's claim 23.

Accordingly, Applicant respectfully submits that the prior art of record, applied alone or in combination, fails to teach or suggest the unique combination and arrangement of elements recited in claim 23 of the present application. Claims 25, 26, 29-33, 35-39, and 44-46 depend upon claim 23 and are therefore allowable for at least the reasons that claim 23 is allowable. As noted above, the Examiner indicated that claims 27 and 28 are allowable.

In view of the foregoing amendments and remarks, Applicant respectfully submits that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

To the extent necessary, Applicant petitions the Commissioner for a ONE-month extension of time, extending to July 31, 2011, the period for response to the Office Action dated March 31, 2011.

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

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